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ABSTRACT

In school district research and evaluation there are constant reminders of the inadequacies of the reductionist positivist paradigm. There is a pressing need to move beyond this outmoded approach, not so much by rejecting experimental inquiry but rather by letting it assume a meaningful role as a specific form of naturalistic inquiry, emphasizing the complementing value of quantitative and qualitative investigation. It is urged (1) that sustained documenting systems be established in school districts, possibly in the form of comprehensive, computerized networks of basic school experience data: (2) that these systems serve as a "skeletal" structure to be continually fleshed out by ongoing case studies, participant observation, and collaborative research, sources which can provide the most accurate context for research and evaluation activities: (3) that universities and research agencies develop a constant coordinate relationship with the schools to combine experimental and more naturalistic inquiry: (4) that programs like Follow Through which already have the capacity to assume this orientation, be given active support to do so. (Author)

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ONGOING DOCUMENTING SYSTEMS

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ONGOING DOCUMENTING SYSTEMS

I. INTRODUCTION

The central theme of this paper is that it is time to put to rest the lingering doubts about leaving the "old scientific home" that education (educational psychology), following psychology's lead, has attempted to make its own since at least the turn of the century, and time to take up residence in a more well-balanced setting. There is, of course, precedent for this kind of leave-taking, notably the break psychology and company made with the smothering philosophical environment they were subjected to at that earlier time. It is now the case that the "scientific" haven that was sought as a replacement for "philosophy" has proven to have its own constricting, suffocating demands (which, in fact, are also related to philosophical assumptions). It is the position of this paper that this situation has been endured long enough and it is time to move on.

II. BRIEF GENERAL PHILOSOPHICAL DIGRESSION

The "moving on" recommendation admittedly, as already noted, cannot be separated from questions of philosophical assumptions. Each of the four preceding speakers has dealt with some aspect of these assumptions and it is not the purpose of this paper to deal with this area at length. By way of brief summary of the context framing the following statements, however, it should be noted that the basically positivistic stance that has characterized psychology and education for most of this century — whether by way of overt or tacit allegiance — has finally been recognized by a

growing number of the professional community as at least an oversimplification, if not a basic misrepresentation of reality. Positivistic assumptions are fundamentally at odds with the concept of the unpredictable "knower who knows that he knows," i.e., the person who plans, is an active participant in learning, and cannot realistically be reduced to a simple quantity or number, except when knowingly and temporarily being dealt with as an abstraction. Positivism is also usually associated with the ideal of "objectivism," regarding which House (1978) notes:

> In its extreme form, objectivism in epistemology entirely excludes the nonquantitative. If it exists, it can be measured, the thought goes. Reduction into numbers sometimes becomes equated with objectivity. (House, 1978, p.6)

The real world of the schools can only view, and has always viewed, positivist kinds of assumptions as completely alien. Why this should be so is not surprising, especially in view of everyday school experience, but also when recognition is given to, e.g., Dunkel (1972) in characterizing education's concerns as being not only about "change," but "improvement," not only about "most cases," but "this single student," and in pointing out that "Education's primary phenomena would simply not exist if it did not produce them itself"; and, likewise, recognition to Gowin (1972) in stating a similar conclusion regarding:

> ...a most significant fact about <u>educational</u> phenomena: They are man-made (artifactual), not natural. They are therefore not likely to yield laws and other modes of invariance such as the natural sciences report in that domain. Whatever regularities researchers are to find in educational phenomena will have been determined by human beings in a social context. (Gowin, 1972, pp. 9-10)

Furthermore, in this same regard, Petrie (1972) reminds us how "theory dependent" all "facts" are, while Scriven (1972) has clearly delineated the "intersubjectivist fallacy" that brands "quantitatively subjective claims" (i.e., first person claims) as inherently "unreliable, biased or probably biased, a matter of opinion," and "quantitatively objective claims" (i.e., "what a number of subjects or judges experience — in short, ... phenomena in the public domain") as inherently "reliable, factual, confirmable or confirmed." Bateson (1979) has also recently called our attention to the fact that "Science probes, it does not prove," and that "there is a deep gulf between statements about an identified individual and statements about a class. Such statements are of different logical type, and prediction from one to the other is always unsure." This section might best be concluded with the reminder from Sarason (1978) that the nature of knowledge/problem solving in social matters (which would include education) is something as follows:

> ... scientific knowledge as power in the social arena is of a different order than it is in the research community ... in the social arena one is always dealing with competing statements of a problem and there is no time or intention to experiment in implementation with one or another of the formulations ... the goal of social action is not once-and-for-all solutions in the scientific sense but to stir the waters of change, hoping and sometimes praying that more good than harm will follow ... (Sarason, 1978, p. 376)

III. MOVING BEYOND: TWO PRIMARY CONSIDERATIONS

The following seem to be two of the most important considerations in planning to go beyond the former positivist stage: (a) what is meant by "science" in this new setting, and (b) how do we get the "person" back into prime focus in educational research.

A. Settling on an Acceptable Definition of "Science"

There is an almost irresistible urge at times to portray those who engage in the so-called "hard sciences" as shaking their heads in disbelief at the behavioral/social sciences' efforts to make the latter resemble the former as closely as possible. While physicists, chemists, etc., are free to employ all aspects of human ingenuity without giving it a second thought, it has apparently been the goal of many psychological and social scientists to devote that ingenuity to explaining itself away in favor of discrete behaviors that can be handled after the fashion of atomic particles. It is the position of this paper that the kind of scene described above constitutes a tragic farce that is in serious need of being righted. Along with Schubert (1980), this paper endorses Scriven's recommendations in his 1979 AERA Presidential Address:

> ...educational researchers must cease to imitate the research paradigms of researchers from disciplines that are generally bestowed more respect than that attributed to education. Instead, educational researchers must carve out a research perspective that fits the unique and rich character of educational problems. (Schubert, 1980, p. 19)

The following statements by Wittrock (1974), reflective of Kuhn's (1970) major work on the role of paradigms in scientific research, offers a very cogent perspective on the approach implied in this paper, and particularty on the matter of "science":

> Within the last decade or so, educational psychology has again been very much involved in producing a paradigmatic shift in the study of human learning. The current welcomed shift is toward cognitivism, toward reinstating the learner, and his cognitive states and information processing strategies, as a primary determiner of learning with understanding and long-term memory.
>
> The shift is welcome for two reasons. It promises fundamental advances in understanding human learning and in integrating findings from developmental psychology, human abilities, and human learning. Secondly, it is time to accept some of the points of reinforcement theory and to move on to other important issues.
> (Wittrock, 1974, pp. 87-88)

Though in a sense it doesn't matter whether the term "science" is used or not -- and one of the reasons the term "inquiry" was used in the title of this symposium is precisely because of the historically restrictive connotation of "science" — what is important is that educational research, though still perhaps essentially "pre-paradigmatic" according to Broudy (1976), be allied with a definition of knowledge based on systematic investigation (science) that is consonant with the nature of the phenomena unique to this area of knowledge, and that this definition be independent, if need be, and without apology, as regards conceptualizations of "science" in the physical sciences.

This kind of "science" will be:

1. "A field of study that concerns itself in a systematic and rigorous way with the problems peculiar to education" (Broudy, 1976); one that recognizes the importance of "naturalistic inquiry" (Guba, 1978); the corresponding importance of "qualitative argument" that relies on "pattern matching" in all scientific investigations (House, 1977); likewise, the importance of "naturalistic generalizations" that stem from "a full and thorough knowledge of the particular" (Stake, 1978); gives credence to the importance of "developmental research" that recognizes the "complexity," "subtlety" and "wholeness" of educating processes, and the "sui generis nature of the person-transactions involved" (Sanders and Schwab, 1978); and, finally, sees the wisdom of Bateson's discussion of "description," "tautology," and "explanation," which clearly gives precedence to human cognition and judgment over mechanical reliance on mathematical models:

> Among human beings, description and explanation are both highly valued, but ... explanation contains no new information different from what was present in the description. Indeed, a great deal of the information that was present in description is commonly thrown away, and only a rather small part of what was to be explained is in fact, explained.

> In science, these types of organization of data (description and explanation) are connected by what is technically called tautology. (An aggregate of linked propositions in which the validity of the links between them cannot be doubted. The truth of the propositions is not claimed. Example: Euclidean geometry — Glossary, p. 230) ... (Bateson, 1979, p. 81)

Bateson goes on to note that "tautology" is informationless, and that "explanation," which is "the mapping of description onto tautology" adds no information beyond description, but "asserts implicity that the links which hold the tautology together correspond to relations which obtain in the description."

2. An approach to systematic investigation that accepts Strike's (1972) point of view regarding Verstehen:

> ... A commitment to treating man as an object of scientific scrutiny does not require us to give up the more traditional view of human nature. What I find attractive in Weber's account of the explanation and understanding of man is that it succeeds in reconciling these apparently divergent strains. Man, for Weber, is a purposeful, rational, and value-seeking thing. Man has a subjective life. However, man's behavior can be accounted for scientifically by the simple expedient of incorporating man's subjective life into an account of his behavior. (Strike, 1972, pp. 44-45)

And a "science" that takes into account Schwab's (1970, 1971) admonitions regarding the need for a practical orientation by educational researchers, and focus on specific problems. And one that consequently adopts Strike's (1979) conceptualization of practical

research that involves recognition of the three components: (a) the "theoretical-normative hard core," (b) "plans of action," and (c) "outcomes"; the model exhibits its practical, rather than theoretical reasoning complexion by including "normative and ends-means propositions" both in the "hard core" and in the "plans of action," as well as "propositions concerning how the success or failure of policies function to modify the ideas which guide action."

B. Reinstating the "Person" at the Center of Educational Research

One of the basic flaws in a positivist epistemology is, as already noted, its disregard for persons as persons. Going beyond the positivist stage means reintroducing the "person" as central to the investigations of educational research. Gordon and Shipman (1979) reintroduce an emphasis on the person as a means of approaching social justice: "Thus, to honor the implicit commitment to equality of opportunity, we may be required to embrace a new commitment to nurturance of human diversity in the pursuit of social justice."

Mischel (1979) has recently pointed the way to renewed focus on persons by his studies yielding the "increasing integration of cognitive and personological constructs in the study of persons."

The studies have concentrated on:

> ...the "cognitive economics" that influence how people (including psychologists) categorize each other naturally ... the development of children's understanding of psychological principles about social behavior generally, and the growth of their knowledge of effective rules for self-regulation in particular ... Finally, studies showing surprising realism in depressed people raise questions about the nature and mechanism of normal affect.
> (Mischel, 1979, p. 740)

Flavell's (1979) studies in "metacognition and cognitive monitoring" are other efforts involving reintroducing personological emphases and, in fact, provided the impetus for Mischel's second type of studies on "children's understanding of psychological principles about social behavior."

As a final citation of renewed emphasis on the "person," there should be noted Epstein's (1979) studies, patterned after Murray's theory that "combine an idiographic with a nomothetic approach" in which "several individuals will be tested with multiple measures on multiple occasions," thus causing "error of measurement to be reduced by averaging over situations and occasions," and bringing out "the interaction of people and situations," and allowing "one to begin to grapple with the complexity of personality."

IV. MOVING BEYOND: A PRACTICAL IMPLICATION — ONGOING DOCUMENTING SYSTEMS

The final section of this paper's recommendations for "moving on" has to do with a practical means of translating this more balanced conceptualization of educational inquiry (science) into day to day operations. Essentially the message of this section is not only can you have the best of both worlds, i.e., the quantitative and the qualitative, in systematic investigations in education, but you had better have the best of both worlds if you are going to do an adequate job in this area. The positivist legacy still persists in our either/or preoccupation, especially in methodology (perhaps this is also the essential problem in the basic/applied research controversy), and we have to begin thinking in both/and terms, i.e., become fully accepting of cognitive theory approaches in our methodological considerations in conjunction with the more mechanical, quantitative principles that have so long ruled the research scene.

It is proposed that one way of merging the best of both of these worlds is to develop ongoing documenting systems. Strike (1979), in discussing his practical research model, makes a related point:

> ...while there are numerous good <u>studies</u> available to educational research, it is hard to point with any confidence to many successful research <u>programs</u>. Indeed, educational research seems depressingly faddish and episodical...
> (Strike, 1979, p. 13)

He sees the basic characteristics of effective research programs as twofold:

> (1) Continuity. If research is a matter of mapping a theoretical-normative hard core onto experience, the researcher first must be possessed of the time, the resources, and the independence to explore various plans of action ...
>
> Continuity is, secondly, a matter of establishing maintaining, and supporting communities of scholars with an intellectual tradition capable of generating coherent research programs ...
>
> (2) A lucid feedback loop. When a researcher learns from failure the following occurs: (1) A plan of action based on assumptions consistent with the theoretical-normative hard core is selected. (2) this plan is acted on. (3) The results are noted. (4) Actual results are compared with desired results. (5) A second plan of action is selected based on a second set of assumptions which are consistent with the theoretical-normative hard core and which will preserve the successes of the first attempt while correcting its failures.
> (Strike, 1979, pp. 14-15)

Schubert (1980), who also urges the "recalibration" of educational research with a practical focus, recommends partnerships of professionals who represent a "blending of an action-oriented and a conceptual problem source," and also stresses the need for a balance between the idiographic and the nomothetic: "Taken separately, each inadequately reflects or explains reality. Taken together, they offer a balanced perspective on the situationally specific and the generalizable aspects of experience."

Messick and Barrows (1972), though speaking primarily with reference to early childhood education, would see the applicability of their view to all ages:

> This is essentially another affirmation of the need for a systems approach in educational research and evaluation that highlights the necessity of dealing

> empirically with the interrelatedness of psychological, social, environmental, and educational factors, all of which affect a child's development
> (Messick and Barrows, 1972, p. 263)

Petrinovich (1979), in his search for an alternative to the unsatisfactory research paradigm offered by positivistic assumptions, likens an adequate, systematic research approach to the general idea of establishing construct validity:

> Upon careful examination it is evident that the universe of ideas involved in establishing the construct validity of a test constitutes a microcosm of those involved in behavior theory in general, and that an understanding of these ideas and of the problems one encounters in the attempt to apply them will benefit all behavioral scientists in their own attempts to establish the validity of their particular inferential constructs.
> (Petrinovich, 1979, p. 386)

Cronbach (1970 — noting the "long-continued interplay between observation, reasoning and imagination" in construct validation) as well as Cronbach (1971) and Messick (1975), who have consistently stressed the preeminent importance of construct validity, would undoubtedly strongly agree with Petrinovich's extrapolation on the construct validity theme and its relationship to a well-formed system for educational/psychological research.

The basic ongoing documenting systems proposed are meant to be an attempt at as accurate a translation as possible of the principles and recommendations cited immediately above. These systems would operate not so much by rejecting experimental inquiry but rather by letting it assume a meaningful role as a specific form of naturalistic

inquiry, emphasizing the complementing value of quantitative and qualitative investigation. The ongoing structure would be based on the following recommendations: (1) that sustained documenting systems be established in school districts, possibly in the form of comprehensive, computerized networks of basic school experience data; (2) that these systems serve as a "skeletal" structure to be continually fleshed out by ongoing case studies, participant observation, and collaborative research, sources which can provide the most accurate context for research and evaluation activities; (3) that universities and research agencies develop a constant coordinate relationship with the schools to combine experimental and more naturalistic inquiry in ongoing fashion through these systems.

This kind of structure would:

(A) Allow the broadened concept of systematic investigation (science) outlined earlier to operate in a context that can make use of: ecological inquiry (Bronfenbrenner (1976); Blumer's (1970) "exploration" and "inspection" procedures that recognize that "Reality exists in the empirical world and not in the methods used to study that world"; Bussis, Chittenden, and Amarel's (1978) "collaborative research"; Frey's (1978), Stake's (1978) and Thoresen's (1978) approaches to case studies; Kean and McNamara's (1978) recommendations for "gradual refinement" of

programs; Shaver's (1979) and Shaver and Norton's (1980) recommendations to orient research toward replication rather than the "one-shot" studies that presently prevail; and, finally, regular documentation that would make it possible to employ various forms of the judicial model advocated by e.g., Wolf, (1979).

(B) Allow the "person" back into center stage by, in addition to the naturalistic inquiry methods already alluded to, having many of the elements consistently on hand for investigating "human diversity" under Cronbach and Snow's (1977) approach to aptitude-treatment interaction (ATI), and also, to some extent Bloom's (1976, 1980) mastery learning approach (at least as far as what students bring to the learning)—it is to be noted that Gordon and Shipman, 1979, see Bloom's approach as the best method going at present until ATI can be further developed — and, finally, with proper training, and manpower/ technical advance opportunities possibly also being able to adapt Patterson's (1968) concept of the "teacher-counselor" to embrace a "teacher-researcher" dimension to be able to accomplish the intensive study of the student in the educational environment necessary for full implementation of the level of description of phenomena required for adequate educational research.

V. CONCLUSION

The type of documenting systems envisioned — to be distinguished from a rigid, extreme form of "systems analysis" which has traditionally been, if not positivistic, at least almost totally limited to a few economic variable like "input - output," etc., — would restore the proper emphasis on the "context of discovery" (Sanders and Schwab, 1978), but at the same time provide a means of dealing with the "context of verification" in balanced, realistic terms. It would stress a largely common systematic knowledge base — educational inquiry (science) — in both evaluation and research, and build on the possibilities of predominantly evaluation-organized school district research units' cooperation with predominantly research-oriented universities in developing that common base so that e.g., a justifiable "gradual refinement" approach replaces our continual scrapping — starting all over approach to educational programs, and so that we restore human inference, human judgment, and common sense — informed as to its limitations and biases (see Shulman and Elstein, 1975, regarding some recent thinking on informed human thought and judgment) — to a primary role in educational investigations, and, finally, so that, as a result of the above we replace, e.g., the present mechanical approaches to major programs like Title I with balanced qualitative-quantitative perspectives that do justice to educational reality.

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